REMARKS

Claims 1-3, 5-9, and 11-12 are rejected under 35 USC §102(b) as being anticipated by Claudenberg et al., U.S. 5,463,705.

The Examiner's rejection is respectfully traversed.

Independent claim 1 has now been amended to recite a magneto-optical device that includes a waveguide structure having at least two cladding regions and core region. The cladding regions and core region comprise semiconductor alloy materials. Either the at least two cladding regions or said core region is doped with ferromagnetic materials that are coupled to free carriers in said waveguide structure so as to increase the faraday rotation of the device.

Independent claim 7 has now been amended to recite a method of forming a magneto-optical device. The method includes forming a waveguide structure that includes at least two cladding regions and core region. The cladding regions and core region comprise semiconductor alloy materials. Also, the method includes doping either the at least two cladding regions or said core region is doped with ferromagnetic materials that are coupled to free carriers in the waveguide structure so as to increase the faraday rotation of the device.

Claudenberg et al. '705 describes an optical waveguide isolator for monolithic integration with semiconductor light emitting diodes such as Fabry-Perot or ring laser diodes.

Claims 1 and 7 recite at least two cladding regions or said core region is doped with ferromagnetic materials that are coupled to free carriers in said waveguide structure so as to increase the faraday rotation of the device. In contrast, Claudenberg et al. '705 describes forming waveguide structures using materials such as GaAs, AlGaAs, GalnAsP, and InP.

However, Claudenberg et al. '705 does not teach or suggest doping with ferromagnetic materials in either the core or cladding layers of Claudenberg et al. '705's various waveguide structures.

Claudenberg et al. '705 describes an optical absorber means 64 that can be realized for example by Zn ion bombardment of a portion of a waveguide, thus providing for a decreased bandgap in this portion. This bombardment locally narrows the bandgap and increases the absorption. The size, shape and position of the absorber means can be defined by deposition of a mask with suitable window prior to the ion bombardment. The influence of Zn ions introduced into AlGaAs is described in "High Optical Power Density Emission from a `Window-Stripe` AlGaAs Double-Heterostructure Laser", H. Yonezu et al., Applied Physics Letters. Vol. 34, No. 10, May 1979, pp. 637-639. Instead of a highly doped region, a grating coupler or 45 degree reflecting surface may serve as absorber means by reflecting the light wave out of the waveguide. It is clear that Claudenberg et al. '705's attempt at doping was not intended to increase the Faraday rotation of the optical absorber but to increase absorption.

Therefore, Claudenberg et al. '705 does not anticipate claims 1 and 7 respectively.

As to claims 2-6 and 8-12, they are dependent on claims 1 and 7, respectively. Therefore, claims 2-6 and 8-12 are also allowable for the same reasons argued with respect to claims 1 and 7.

In view of the above amendments and for all the reasons set forth above, the Examiner is respectfully requested to reconsider and withdraw the rejections made under 35 U.S.C. §102. Accordingly, an early indication of allowability is earnestly solicited.

If the Examiner has any questions regarding matters pending in this application, please feel free to contact the undersigned below.

Respectfully submitted,

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